

A retrospective study comparing the length of admission of medium secure unit patients admitted in the three decades since 1985

Charles H. Earnshaw,¹ Lucy Shaw,² Deepu Thomas,³ Owen Haeney^{4,5}

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¹Salford Royal NHS Foundation Trust, UK; ²Greater Manchester Mental Health NHS Foundation Trust, UK; ³Priory Healthcare, Kemple View Hospital, Blackburn, UK; ⁴Forensic Mental Health Service, South Australia; ⁵Discipline of Psychiatry, The University of Adelaide, Australia

Correspondence to Dr Charles Earnshaw (charles.earnshaw@cantab.net)

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Aims and method Admissions of patients to secure forensic hospitals are often lengthy. Previous research has examined factors associated with prolonged admission, but studies analysing admission data at a single medium secure unit (MSU) over a prolonged time period are lacking. We compared admission data for all patients admitted to a MSU in England during the years 1985, 1995, 2005 and 2012.

Results The median length of admission increased from 167 days in 1985 to 580 days in 2012, though not in the intervening cohorts. There have been changes in the discharge destination of patients, away from independent accommodation in the community towards further care or supported accommodation.

Clinical implications The results suggest a change in the delivery of care. Further studies should be performed to assess whether the same trends exist at other sites. If these trends are also found elsewhere, this should trigger a speciality-wide discussion about admission length and its effects on bed availability.

Declaration of interest None.

Keywords Forensic mental health services; forensic psychiatry; length of stay.

Forensic hospitals, including high, medium and low secure services, have important roles in the treatment of psychiatric patients with a criminal history. Patients are admitted to these specialised services when it is felt they pose a risk to others, often due to a history of serious violence or other offending behaviours. The care of these patients, now more than ever, involves a multidisciplinary approach.^{1,2}

There is an expanding body of literature analysing the outcomes of admission to medium secure units (MSUs). These studies suggest that patients are at significant risk of readmission and, sadly, at significantly increased risk of death compared with the general population.^{3–6} Admissions to MSUs are now often lengthy,^{7–9} findings that were echoed by a recent study analysing length of stay data in high secure units across Europe.¹⁰ Factors identified as associated with a longer length of stay include a diagnosis of a psychotic disorder, detention under a restriction order – in particular, those under section 37/41 (Section 37 is a court-issued order that means the patient will be sent to hospital rather than prison, and Section 41 is a so-called ‘restriction order’ that is designed to reduce the risk to the general public) of the Mental Health Act 1983 (amended

2007) – poor treatment response and the seriousness of the index offence.⁸ However, data from single sites over a prolonged period of time are lacking.

The objective of our study was to observe trends in the diagnoses, length of stay and discharge of patients admitted to a local MSU in the years 1985, 1995, 2005 and 2012. We also considered what factors or changes in service provision over the study period had affected the length of admission and discharge locations of our medium secure service.

Materials and method

Ethical approval for this study was gained from the local clinical audit department as a service evaluation and did not require approval from the local Research Ethics Committee. Non-anonymised data required by the study were gathered by one author (D.T.), and anonymised data were subsequently analysed by the remaining authors.

All male and female patients admitted to the MSU during the years 1985, 1995, 2005 and 2012 were included in the study. The admission year of 2012 was chosen (rather

Table 1 Diagnoses of patients admitted to our medium secure unit during 1985, 1995, 2005 and 2012

Diagnosis	1985	1995	2005	2012
Paranoid schizophrenia	32 (67%)	60 (92%)	26 (70%)	24 (80%)
Schizoaffective disorder	1 (2%)	0 (0%)	5 (14%)	3 (10%)
Mood disorder, manic episode	0 (0%)	0 (0%)	0 (0%)	1 (3%)
Bipolar disorder	7 (15%)	2 (3%)	2 (5%)	0 (0%)
Depressive episode	0 (0%)	1 (2%)	1 (3%)	1 (3%)
Recurrent depressive disorder	0 (0%)	0 (0%)	1 (3%)	0 (0%)
Affective mood disorder	0 (0%)	0 (0%)	0 (0%)	1 (3%)
Antisocial personality disorder	2 (4%)	0 (0%)	0 (0%)	0 (0%)
Emotionally unstable personality disorder	0 (0%)	0 (0%)	1 (3%)	0 (0%)
Organic	1 (2%)	1 (2%)	0 (0%)	0 (0%)
Undetermined	5 (10%)	1 (2%)	1 (3%)	0 (0%)

Table 2 Median duration of admission of patients in the medium secure unit in each of the years included in the study. The minimum and maximum duration of stay are also included

	Year			
	1985	1995	2005	2012
Median duration of admission, days \pm s.d.	167 \pm 299	114 \pm 425	110 \pm 566	580 \pm 453
Minimum duration, days	1	1	3	3
Maximum duration, days	1662	1952	2297	Unknown ^a

a. The maximum duration is unknown for this cohort owing to ongoing admission.

than a later year) as it provided sufficient time from admission to the date of data collection for treatment courses and possible discharges to be assessed.

One hundred and seventy-nine patient records were included in this study. The date of data collection was 4 April 2016. No patients were excluded from the study. Electronic records were analysed for a variety of criteria, including age on admission, date of admission, date of discharge, diagnosis, source of admission, location of discharge and convictions on admission. In the 2012 cohort, four patients had not yet moved on from the MSU on the date of data collection. Their discharge date was recorded as the date of data collection to give a minimum median length of stay for the 2012 cohort. These patients were excluded from the analysis of discharge destination.

Data compilation and analysis were performed in Microsoft Excel (Microsoft Corporation, Redmond, WA, USA). Statistical analysis comparing length of admission of different cohorts was performed with one-way ANOVA using an internet-based calculator (<http://www.statisticslectures.com/calculators>).

Results

There were 47, 65, 37 and 30 patients admitted to the MSU in 1985, 1995, 2005 and 2012, respectively. The majority of these patients were diagnosed with paranoid schizophrenia. The primary diagnoses of patients included in the different cohorts

are shown in [Table 1](#). The average age of the patient population varied little over the time period included in our study.

The median length of admission increased dramatically in our final cohort, from 167 days in 1985 to 580 days in 2012 ([Table 2](#)). According to a one-way ANOVA test, the median durations of the first and last cohorts, but not the intervening cohorts, differed significantly from one another ($P < 0.01$).

The discharge location also showed changes over the study period ([Table 3](#)). Fewer patients were discharged directly to their home (54% in the 1985 cohort and 13% in the 2012 cohort), and more patients were discharged to other forms of psychiatric hospital, such as other MSUs (0% in 1985, 3% in 1995 and 2005, 17% in 2012) or to low secure units (10% in the 1985 cohort compared with 33% in the 2012 cohort).

Discussion

The main finding of this study is that the duration of admission has increased significantly in the three decades since the initial cohort, with patients now remaining for a median of close to two years in the MSU. This correlates with a reduction in the number of new admissions per year, down from a peak of 65 in 1995 to 30 in 2012. The duration of admission appears to have been relatively stable in the decades prior to the 2012 cohort; only in this cohort did the length of admission increase significantly.

Table 3 Discharge location of patients discharged from our medium secure unit (MSU) in the 1985, 1995, 2005 and 2012 admission cohorts

Discharge location	1985	1995	2005	2012
Police custody	0 (0%)	0 (0%)	0 (0%)	1 (3%)
Prison	5 (10%)	7 (11%)	6 (16%)	3 (10%)
Low secure psychiatric hospital	5 (10%)	4 (6%)	8 (22%)	10 (33%)
Other MSU	0 (0%)	2 (3%)	1 (3%)	5 (17%)
High secure psychiatric hospital	4 (8%)	5 (8%)	1 (3%)	1 (3%)
Remained in our MSU	0 (0%)	0 (0%)	0 (0%)	4 (13%)
Supported accommodation	8 (17%)	28 (43%)	10 (27%)	2 (7%)
Home	26 (54%)	17 (26%)	9 (24%)	4 (13%)
Died	0 (0%)	0 (0%)	2 (5%)	0 (0%)
No information	0 (0%)	2 (3%)	0 (0%)	0 (0%)

The four patients in the 2012 cohort still in the MSU on 1 April 2016 each had a length of stay of at least three years and three months. Their final length of admission may be significantly longer, and we cannot know by how much the median length of stay is an underestimate.

Recommendations regarding treatment of mentally disordered offenders were made in the Glancy and Butler reports.^{11,12} These reports informed the development of the regional secure units (now known as MSUs) to complement the existing special hospitals (now known as high secure hospitals). An upper limit for length of stay of two years in the regional secure units was suggested, but this is now regularly exceeded, as this study shows. The increasing length of stay in MSU has been criticised, being deemed 'too long in very expensive and often unsuitable provision' in a report by the Schizophrenia Commission.¹³

Despite the aforementioned criticism of the increasing length of stay and the undoubted expense of a medium secure bed, these services have the potential to save society a significant financial burden. One report suggests an average saving of over £600 000 per patient transferred from prison to psychiatric units.

Information regarding the length of stay at a single site has been investigated previously.^{14–17} However, no studies have investigated how the length of stay has changed over a prolonged period of time. Therefore, we feel that the data provided by our study add to the literature and provide a primary example of how length of admission has changed across a significant period of time. When comparisons were made with these early studies, the length of admission was comparable with that of the earliest cohort of our study. For example, in one paper published in 1981, the vast majority of patients were discharged in less than one year, which fits with the length of stay of the 1985 cohort in our study.¹⁴ It would be interesting to see modern studies in these other hospitals, to identify whether they have witnessed similar increases in length of stay.

One of the major changes since 1985 is in how patients are treated. In the older cohorts, the principal role of the forensic mental health service was to ensure that the symptoms of the patient's mental illness had reduced or resolved; offending risk related to other factors such as personality, substance misuse, social circumstances or life choices was

often not felt to be the domain of mental health services. This underwent a significant change in the following decades. Mental health services now provide far broader care to address these other aspects, as evidenced by the essential roles of the multidisciplinary team^{1,2} and the adoption of recovery principles. These important changes are time and labour intensive, and as such may be a contributing factor to the increased length of stay.

In the analysis of the discharge locations and admission sources of these patient cohorts, certain patterns emerged. Far fewer patients are discharged directly to their home. Our patients are often discharged to long-term MSUs, lower security psychiatric units or supported accommodation. Notably, therefore, despite the increasing length of stay, fewer patients are discharged directly into independent accommodation in the community. Numerous studies have provided detailed analysis of the follow-up of patients discharged from forensic psychiatry units.^{3–6} Given the risks inherent in these patients returning to day-to-day life, further care in supported environments may reduce risk to others at a population level. Responses to serious untoward incidents have changed over time^{18,19} and may now be more likely to lead to greater restrictions for patients. This in turn may contribute to the increasing lengths of stay described above.

There are limitations to our study. As our cohort was from a single MSU, the general applicability of our findings may be limited. It is recommended that further research be undertaken to examine whether the trends identified here are reproduced in other MSUs.

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About the authors

Charles H. Earnshaw is an academic clinical fellow at Salford Royal NHS Foundation Trust, UK; **Lucy Shaw** is a forensic psychiatry registrar at Greater Manchester Mental Health NHS Foundation Trust, Prestwich, UK; **Deepu Thomas** is a consultant forensic psychiatrist at Priory Healthcare, Kemple View Hospital, Blackburn, UK; and **Owen Haeney** is a consultant forensic psychiatrist at the Forensic Mental Health Service, James Nash House,

Oakden and a clinical lecturer in the Discipline of Psychiatry at the University of Adelaide, Australia.

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